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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,849	12/07/2005	Miki Wolf	1318MMG-US	1965
<div>7590      03/09/2007</div> <div>David Klein Dekel Patent Beit Harofim Room 27 18 Menuha VeNahala Street Rehovot Israel, ISRAEL</div>			<div>EXAMINER</div> <div>RUTLAND WALLIS, MICHAEL</div> <div>ART UNIT      PAPER NUMBER</div> <div>2836</div>	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/09/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,849	<b>Applicant(s)</b> WOLF ET AL.	
	<b>Examiner</b> Michael Rutland-Wallis	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, filed 1/19/2007, with respect to the rejections of claims 1-12 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made below.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference characters not mentioned in the description: Fig. 4-5 items 1-10 Fig. 6 is recited in the disclosure to show a preferred embodiment of high voltage magnetic compression modulator, see page 5 of specification, however only a waveform is shown, Figure 7 is not described anywhere in the disclosure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference characters in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Weiner et al. (U.S. Pat. No. 4,612,455)

With respect to claim 1 Weiner teaches a high voltage magnetic compression modulator comprising: a low-voltage part (i.e. circuitry to the left side of step-up transformer) comprising an energy source (item 22) connected to a primary winding (item 52) of a pulsed transformer (item 30 or 50); and a high-voltage part (i.e. circuitry to the right side of step-up transformer) comprising a secondary winding (item 56) of said pulsed transformer connected to a capacitor (see Fig. 4 Weiner shows plates or shields item 64 separated by a dielectric material item 66 which serve as a capacitor to store or charge voltage for pulse), said capacitor being connected to a magnetic switch (Weiner

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shows in figure 4 inductive windings item 62 around a core item 68, which serve to constitute an inductor and function as a magnetic switch upon the collapse of the induced field in the transformer windings), said magnetic switch being connected to a load (item 72); characterized in that a unidirectional low-impedance path (path containing diode item 74) for the charge of said capacitor is connected in parallel (see connection of Fig. 3) to said load (item 72) and wherein the said low impedance path includes a freewheeling diode (item 74 see col. 3 lines 54-56).

With respect to claim 2 Weiner teaches the low-voltage part further comprises a storage capacitor (item 26) and a fast high-current commutator (item 28), all connected in series in a loop with said primary winding (item 52) of said pulsed transformer, and wherein said energy source (item 22) comprises a capacitor charger (the supply input charges the capacitor).

With respect to claim 3 Weiner teaches the charger is connected to the storage capacitor and to the fast high-current commutator (see Fig. 3).

With respect to claim 4 Weiner teaches pulsed transformer is wound on a ferromagnetic core (item 54).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiner et al. (U.S. Pat. No. 4,612,455) in view of Kotov Y A et al. (previously cited)

With respect to claim 6 Weiner teaches a high voltage magnetic compression modulator comprising: a low-voltage part (i.e. circuitry to the left side of step-up transformer) comprising a charger (item 22) with a first terminal connected to a first terminal of a storage capacitor (item 26) and to a first terminal of a fast high-current commutator (item 28), and with a second terminal connected to a second terminal of said commutator and to a first terminal of a low-voltage winding (item 52) of a pulsed transformer (item 30 or 50), the second terminal of said low-voltage winding being connected to the second terminal of said storage capacitor; and a high-voltage part (i.e. circuitry to the right side of step-up transformer) formed by said high-voltage transformer wound on a ferromagnetic core (item 54) whose secondary winding (item 56) is connected in parallel (see connection of Fig. 3) to a first capacitor (see Fig. 4 Weiner shows plates or shields item 64 separated by a dielectric material item 66 which serve as a capacitor to store or charge voltage for pulse) and by a second of its terminals to a first terminal of a magnetic switch (Weiner shows in figure 4 inductive windings item 62 around a core item 68, which serve to constitute an inductor and function as a magnetic switch upon the collapse of the induced field in the transformer windings), a second terminal of the magnetic switch being connected to a first terminal of a load (item 72), a second terminal of said secondary winding being connected to a second terminal of said load (item 72); characterized in that a low-impedance path is provided for the charge of

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said storage capacitor through a freewheeling diode (item 74 see col. 3 lines 54-56) connected in parallel (see connection of Fig. 3) to said load. Wiener does not teach the details of the capacitor arrangement or the use of a second capacitor arranged in parallel as claimed. Kotov teaches a similar system to that of Wiener wherein Kotov teaches (Fig. 4 and 5) a first and second capacitor in a parallel arrangement in connection with a magnetic switch (item MS). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wiener to include the use of a first and second capacitor arranged with the magnetic switch in order to increase the voltage of the pulse as seen in Kotov.

With respect to claim 7 Kotov teaches the charger first terminal is its positive terminal and said charger second terminal is its negative terminal (see Fig. 4).

With respect to claim 8 Kotov teaches the charger first terminal is its positive terminal and said charger second terminal is its negative terminal it would have been obvious to one of ordinary skill in the art at the time of the invention to reverse the polarity in order to utilize negative voltage and negative logic.

With respect to claim 9 Weiner as modified by Kotov teaches the fast high current commutator comprises a thyristor.

With respect to claim 10 Weiner teaches the said ferromagnetic core. A detailed discussion relating to the magnetic curve of the core of Weiner is not given typical ferrite core pulse transformer have regular rectangular magnetization curves it would have been obvious to one of ordinary skill in the art at the time of the invention to use such a

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core in order to increase the efficiency and effectiveness of the transformer if it held that such a curve is not a property of the core of Weiner.

With respect to claim 11 Kotov teaches additional compression stages connected between said magnetic switch and said load and diode, each stage (see stages of Fig. 4) comprising an additional first magnetic switch, whose winding is connected in parallel (see connection of Fig. 5) to the first capacitor of this stage and by the first of its terminals to the first terminal of the second capacitor of this stage, whose second terminal is connected to the first terminal of the winding of second additional magnetic switch of this stage, the second terminal of second magnetic switch winding being connected to the first terminal of the first magnetic switch of the following stage, the second terminal of said winding of said first magnetic switch being connected to the second terminal of said load and to said diode, whose second terminals are connected to the second terminal of the second magnetic switch of the last compression stage.

With respect to claim 12 Weiner and Kotov teach at least one of said first magnetic switches (item MS) is implemented as a high-voltage transformer (see Fig. 5) wound on a ferromagnetic core. While the discussion of the magnetization curve is discussed it would have been obvious to one of ordinary skill in the art at the time of the invention to use a core with such a curve, as rectangular magnetic curve as such is typical in pulse transformers.

### ***Conclusion***




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRW



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